

Claims:

1. In a computing system a method to handle large volume of e-mail received from a plurality of senders intelligently, by automatically processing each email based on a pre-determined classification system and stored information, said method comprising the steps of :

- receiving and sending the electronic mails,
- parsing the electronic mail header to capture keywords for the purpose of identifying the sender, the subject and specific key words and/or phrases,
- parsing the electronic mail body including attachments if any, for keywords and/or phrases for purpose of categorizing the e-mail for response,
- storing the said received emails in a personalized email database (PED),
- analyzing the emails stored in the PED for identifying co-relations among received e-mails using an expert system (ES) with machine learning capabilities to assist the user in analyzing and preparing replies,
- preparing a reply template using a reply template generator (RTG),
- storing the email replies in said PED,
- configuring said PED and said ES using an personalized email database configurator (PEC) for updation.

2. A method as claimed in claim 1 further comprising:

- storing of the received and sent e-mails in a mailbox (MB) within said PED,
- storing the result of the analysis by said expert system in New Knowledge.Base (NKB) in the said PED.

3. A method as claimed in claim 1 further including storage of personal data profile of the user, calendar of appointments / meetings, current job contents in said PED.

4. A method as claimed in claim 1 further comprising the accessing of said PED over a network so as to make it useful to a travelling user.

5. A method as claimed in claim 1 further comprising the accessing of said PED through appropriate facilities including palm pilots.

6. A method as claimed in claim 1 further comprising:

- optionally generating the reply template,
- selecting mail type on which to generate reply template e.g. one-liner, short, medium long replies,
- enabling/disabling history search and intelligent reply template generation for specific type of mails for short mails,
- enabling/disabling history search and intelligent reply template generation for specific type of mails for cc'ed type or bcc'ed type or mails sent to newsgroups,
- specifying history search and intelligent reply template generation parameters like:
 - whether to search on subject and/or sender,
 - time period in which the messages need to be searched for,
 - type of message contents to be included/excluded,
- scheduling deletion of mails from the MB and NKB,
- scheduling sending of mails,
- specifying latest first or oldest first while generating relevant intelligent reply,

- specifying limits on inclusion of older reply contents – time period wise, volume wise and bandwidth wise,
- specifying criteria for inclusion/exclusion of keywords,
- providing access to multiple PEDs at various locations over the network,
- providing on-the-fly exclusion / inclusion of original mail and reply contents including the various levels of replies and counter-replies

by the user through said PEC.

7. A method as claimed in claim 1 further including displaying said reply template on the screen by said RTG based on searches conducted within the NKB in said PED.

8. A method as claimed in claim 1 further including displaying of:

- the mail received R1,
- reply sent to R1 – ST,
- reply received on S1 – R2,
- reply sent to R2 – S2,
- reply received on S2 – R3

by said RTG, serially and in chronological sequence, individually or in groups of R1, R2, R3 or S1, S2, S3 or in any combination requested by the user, either in configurable colors and/or with changed font type and size.

9. A method as claimed in claim 1 further including viewing and searching of the database by said RTG for relevant emails/messages with:

- the same subject,
- the same sender and same subject

- the same subject and any one of the recipients listed in the cc: list or the To: list and various other similar combinations.

5 10. A method as claimed in claim 1 wherein said reply template is in the same format in which said attachments have been received.

10 11. A method as claimed in claim 1 further comprising generating co-relations and new associations by said ES using state of art and state of the practice techniques of NLP, AI, machine learning.

15 12. A method as claimed in claim 1 further including searching the said PED by said ES for co-relations amongst e-mails received

- sender wise,
- senders within a particular timeframe,
- thread wise or subject wise,
- sender and subject wise,
- sender, subject and date wise,
- sender, keyword wise.

20 13. In a computing system a system to handle large volume of e-mail received from a plurality of senders intelligently, by automatically processing each email based on a pre-determined classification system and stored information, comprising:

- means for receiving and sending the electronic mails,
- means for parsing the electronic mail header to capture keywords for the purpose of identifying the sender, the subject and specific key words and/or phrases,

- means for parsing the electronic mail body including attachments if any, for keywords and/or phrases for purpose of categorizing the e-mail for response,
- means for storing the said received emails in a personalized email database (PED),
- means for analyzing the emails stored in the PED for identifying co-relations among received e-mails using an expert system (ES) with machine learning capabilities to assist the user in analyzing and preparing replies,
- means for preparing a reply template using a reply template generator (RTG),
- means for storing the email replies in said PED,
- means for configuring said PED and said ES using an personalized email database configurator (PEC) for updation.

14. A system as claimed in claim 13 further comprising:

- means for storing the received and sent e-mails in a mailbox (MB) within said PED,
- means for storing the result of the analysis by said expert system in New Knowledge Base (NKB) in the said PED.

15. A system as claimed in claim 13 further including means for storing personal data profile of the user, calendar of appointments / meetings, current job contents in said PED.

16. A system as claimed in claim 13 further including the means for accessing said PED over a network so as to make it useful to a travelling user.

17. A system as claimed in claim 13 further including the means for accessing said PED through appropriate facilities including palm pilots.

18. A system as claimed in claim 13 further comprising means for allowing the user through said PEC to:

- optionally generate the reply template,
- select mail type on which to generate reply template e.g. one-liner, short, medium long replies,
- enable/disable history search and intelligent reply template generation for specific type of mails for short mails,
- enable/disable history search and intelligent reply template generation for specific type of mails for cc'ed type or bcc'ed type or mails sent to newsgroups,
- specify history search and intelligent reply template generation parameters like,
 - whether to search on subject and/or sender,
 - time period in which the messages need to be searched for,
 - type of message contents to be included/excluded
- schedule deletion of mails from the MB and NKB,
- schedule sending of mails,
- specify latest first or oldest first while generating relevant intelligent reply,
- specify limits on inclusion of older reply contents – time period wise, volume wise and bandwidth wise,
- specify criteria for inclusion/exclusion of keywords,
- provide access to multiple PEDs at various locations over the network,
- provide on-the-fly exclusion / inclusion of original mail and reply contents including the various levels of replies and counter-replies.

19. A system as claimed in claim 13 further including means for displaying said reply template on the screen by said RTG based on searches conducted within the NKB in said PED

20. A system as claimed in claim 13 further comprising means for displaying:

- the mail received R1,
- reply sent to R1 – S1,
- reply received on S1 – R2,
- reply sent to R2 – S2,
- reply received on S2 – R3

by said RTG, serially and in chronological sequence, individually or in groups of R1, R2, R3 or S1, S2, S3 or in any combination requested by the user, either in configurable colors and/or with changed font type and size.

21. A system as claimed in claim 13 further including means for viewing and searching of the database by said RTG for relevant emails/messages with:

- the same subject,
- the same sender and same subject,
- the same subject and any one of the recipients listed in the cc: list or the To: list and various other similar combinations.

22. A system as claimed in claim 13 further including means for generating co-relations and new associations by said ES using state of art and state of the practice techniques of NLP, AI, machine learning.

23. A system as claimed in claim 13 further including means for searching said PED by said ES for co-relations amongst e-mails received

- sender wise,
- senders within a particular timeframe,
- thread wise or subject wise,
- sender and subject wise,
- 5 - sender, subject and date wise,
- sender, keyword wise.

24. A computer program product comprising computer readable program code stored on computer readable storage medium embodied therein for causing a computer to handle large volume of e-mail received from a plurality of senders intelligently, said computer program code comprising:

- computer readable program code means configured for receiving and sending the electronic mails,
- 15 - computer readable program code means configured for parsing the electronic mail header to capture keywords for the purpose of identifying the sender, the subject and specific key words and/or phrases
- computer readable program code means configured for parsing the electronic mail body including attachments if any, for keywords and/or phrases for purpose of categorizing the e-mail for response,
- 20 - computer readable program code means configured for storing the said received emails in a personalized email database (PED),
- computer readable program code means configured for analyzing the emails stored in the PED for identifying co-relations among received e-mails using an expert system (ES) with machine learning capabilities to assist the user in analyzing and preparing replies,
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- computer readable program code means configured for preparing a reply template using a reply template generator (RTG),
- computer readable program code means configured for storing the email replies in said PED.
- 5 - computer readable program code means for configuring said PED and said ES using an personalized email database configurator (PEC) for updatation.

25. A computer program product as claimed in claim 24 further comprising:

- 10 - computer readable program code means configured for storing of the received and sent e-mails in a mailbox (MB) within said PED,
- computer readable program code means configured for storing the result of the analysis by said expert system in New Knowledge Base (NKB) in the said PED.

15 26. A computer program product as claimed in claim 24 further including computer readable program code means configured for storage of personal data profile of the user, calendar of appointments / meetings, current job contents in said PED.

20 27. A computer program product as claimed in claim 24 further including computer readable program code means configured for accessing said PED over a network so as to make it useful to a travelling user.

25 28. A computer program product as claimed in claim 24 further comprising computer readable program code means configured for accessing said PED through appropriate facilities including palm pilots.

29. A computer program product as claimed in claim 24 further comprising computer readable program code means configured for allowing the user through said PEC to:

- optionally generate the reply template,
- select mail type on which to generate reply template e.g. one-liner, short, medium long replies,
- enable/disable history search and intelligent reply template generation for specific type of mails for short mails,
- enable/disable history search and intelligent reply template generation for specific type of mails for cc'ed type or bcc'ed type or mails sent to newsgroups,
- specify history search and intelligent reply template generation parameters like,
 - whether to search on subject and/or sender,
 - time period in which the messages need to be searched for,
 - type of message contents to be included/excluded,
- schedule deletion of mails from the MB and NKB,
- schedule sending of mails,
- specify latest first or oldest first while generating relevant intelligent reply,
- specify limits on inclusion of older reply contents – time period wise, volume wise and bandwidth wise,
- specify criteria for inclusion/exclusion of keywords,
- provide access to multiple PEDs at various locations over the network,
- provide on-the-fly exclusion / inclusion of original mail and reply contents including the various levels of replies and counter-replies.

30. A computer program product as claimed in claim 24 further including computer readable program code means configured for displaying said reply template on the screen by said RTG based on searches conducted within the NKB in said PED.

31. A computer program product as claimed in claim 24 further including computer readable program code means configured for displaying of:

- the mail received R1
- reply sent to R1 – S1
- reply received on S1 – R2
- reply sent to R2 – S2
- reply received on S2 – R3

by said RTG, serially and in chronological sequence, individually or in groups of R1, R2, R3 or S1, S2, S3 or in any combination requested by the user, either in configurable colors and/or with changed font type and size.

32. A computer program product as claimed in claim 24 further including computer readable program code means configured for viewing and searching of the database by said RTG for relevant emails/messages with:

- the same subject,
- the same sender and same subject
- the same subject and any one of the recipients listed in the cc: list or the To: list and various other similar combinations.

33. A computer program product as claimed in claim 24 further including computer readable program code means configured for generating of co-relations and new associations by said ES using state of art and state of the practice techniques of NLP, AI, machine learning

34. A computer program product as claimed in claim 24 further including computer readable program code means configured for searching the said PED by said ES for co-relations amongst e-mails received

- sender wise,
- senders within a particular timeframe,
- thread wise or subject wise,
- sender and subject wise,
- sender, subject and date wise,
- sender, keyword wise.

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